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Attachment No. 2

INITIAL STATEMENT OF REASONS

CALIFORNIA CODE OF REGULATIONS

TITLE 8: Chapter 4, Subchapter 5, Article 3, Section 2320.2
of the Low Voltage Electrical Safety Orders

Energized Equipment or Systems

SUMMARY

This rulemaking action is initiated as a result of a Division of Occupational Safety and Health (Division) memorandum dated December 19, 2002, and a Division document titled "Request For New or Change In Existing Safety Order" dated December 13, 2002. Section 2320.2 provides the requirements in the Low Voltage Electrical Safety Orders (LVESO) for work performed on exposed energized parts of equipment or systems. Additionally, Section 2320.2 requires the use of suitable personal protective equipment and safeguards when work is performed on exposed parts of energized equipment or systems.

However, Section 2320.2 does not establish a hazard threshold voltage for worker exposure. Consistent with Federal OSHA standards, the Division recommends an amendment that would clarify that suitable protective equipment, such as approved insulating gloves or insulated tools, is not required when working on exposed parts of electrical equipment or systems energized at less than 50 volts. Federal OSHA and the National Electrical Code recognize 50 volts as the threshold where employees must be protected from contact with live parts of electrical equipment.

The Division stated that Section 2320.2 does not address provisions for the care and maintenance of insulating gloves. In order to be in compliance with existing requirements for the in-service care and testing of insulating gloves, the employer must be aware that the General Industry Safety Orders (GISO) require that personnel protective equipment be used in accordance with the manufacturer's instructions. Therefore, the proposal would provide clarity for the employer by incorporating by reference into Section 2320.2 the manufacturer's recommendations for compliance with the American Society for Testing Materials (ASTM) F 496-02a standard that addresses the in-service care of insulating gloves. The proposal includes an update to the existing reference to the ASTM D 120–95, Standard Specification for Rubber Insulating Gloves and the ASTM F 1505–94, Standard Specification for Insulated and Insulating Hand Tools to a current edition of each.

Section 2320.2. Energized Equipment or Systems.

LVESO Section 2320.2 provides that work shall not be performed on the exposed parts of energized parts of equipment or systems until a number of listed conditions and work procedures are met.

Subsection (a)(3)

Existing subsection (a)(3) requires that suitable personal protective equipment and safeguards (i.e., approved insulated gloves or insulated tools) are provided and used for work on energized parts of equipment or systems. An exception is proposed for this subsection that clarifies insulating gloves or insulated tools are not required for work on parts or systems energized at less than 50 volts. The effect of this amendment will be to specify a hazard threshold voltage for worker exposure. The proposed amendment is consistent with Federal OSHA standards that recognize 50 volts as the starting point where unprotected contact with energized parts can be hazardous.

Subsection (a)(3)(A)

Existing subsection (a)(3)(A) in part requires that rubber insulating gloves shall meet the provisions of the ASTM D 120-95, Standard Specification for Rubber Insulating Gloves, which is incorporated by reference. An amendment would update the outdated 1995 reference for this ASTM standard and reference the 2002 edition (ASTM D 120-02a). The ASTM D 120 standard prescribes the design and testing protocols for manufacturers of insulated gloves to ensure that the gloves will provide suitable protection for the rated voltages allowed for each class of insulated glove. Rubber insulated gloves are designated in six different classes depending on the level of protection they provide and are designated as Class 00, Class 0, Class 1, Class 2, Class 3, and Class 4. Class 00 and 0 rated gloves are used in many low voltage work operations as they provide a maximum use for protection of 500 volts AC and 1,000 volts AC, respectively.

The manufacturers of rubber insulating gloves already follow the current editions of the ASTM standards for the design of insulated gloves and for protocols on how to test gloves to ensure that the gloves will provide protection from electrical hazards for the class of glove used. Therefore, the proposed amendment would have the effect of providing clarity to the standard and would reference the current edition of the ASTM D 120 standard that is more readily available and used by the electrical industry.

Another amendment proposed for subsection 2320.2(a)(3)(A) would clarify that rubber insulating gloves must be maintained in accordance with the ASTM F 496-02a Standard Specification for In-Service Care of Insulating Gloves and Sleeves, which is incorporated by reference in the proposal. The High Voltage Electrical Safety Orders[1] (HVESO) currently incorporate by reference the ASTM F 496-97 standard which in part specifies that the employer is responsible for the periodic visual and electrical re-testing of all insulating gloves. The LVESO are applicable to work on electrical installations and equipment operating at 600 volts or

[1] The High Voltage Electrical Safety Orders with some exceptions, apply to electrical installations and electrical equipment operating or intended to operate on systems of more than 600 volts between conductors and all work performed directly on or in proximity to such electrical installations, equipment or systems. [See HVESO Section 2706(a)]

less. For the LVESO, the care, maintenance and use of rubber insulating gloves is addressed in the GISO Section 3380(c) for personal protective equipment. GISO Section 3380(c) states that the employer shall assure that the employee is instructed and uses personal protective equipment in accordance with the manufacturer's instructions. The manufacturers instructions state that rubber insulating gloves must be electrically retested based on the requirements of the latest revision of the ASTM F 496 standard.

The proposed amendment would clarify for the employer performing work within the scope of Section 2320.2 that rubber insulating gloves must be maintained in accordance with the ASTM F 496-02a standard. For some employers that are not currently following the manufacturers recommendations to electrically retest rubber insulating gloves, the proposed amendment would have the effect of making it more apparent that rubber insulating gloves used in low voltage applications must also be maintained in accordance with the ASTM F 496-02a standard.

Subsection (a)(3)(B)

Existing subsection (a)(3)(B) requires that insulated tools shall meet the provisions of the ASTM F 1505-94, Standard Specification for Insulating Hand Tools, which is incorporated by reference. An amendment is proposed that would update the referenced 1994 version of this standard to the 2001 edition of ASTM F 1505. The 2001 edition of this ASTM standard includes several provisions that are not addressed in the 1994 standard such as the design of insulating tweezers and instructions for the design of insulating tools used in extremely low temperatures. The manufacturers of insulating tools already follow the current editions of the ASTM standards for the design of insulated tools to ensure suitable protection from electrical hazards. Therefore, the proposed amendment would have the effect of providing clarity to the standard and would reference an edition of the ASTM F 1505 standard that is more readily available and used by the electrical industry.

DOCUMENTS RELIED UPON

1. Memorandum dated December 19, 2002, from Suzanne P. Marria, Acting Chief Deputy Director, Division of Occupational Safety and Health to John MacLeod, Executive Officer and an attached Division document dated December 13, 2002, titled "Request for New or Change in Existing Safety Order.

2. Letter dated January 30, 2004, from rubber insulating glove manufacturer, Salisbury Company's Technical Support department.

3. Federal Register, Volume 70, No.114, Wednesday, June 15, 2005, 29 CFR Parts 1910 and 1926, Proposed Rule for Electric Power Generation, Transmission, and Distribution; Electrical Protective Equipment.
4. Letter dated October 2, 2006, with one page attachment from Burlington Safety Laboratory of California, Inc. to George Hauptman, Occupational Safety and Health Standards Board.

These documents are available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

DOCUMENTS INCORPORATED BY REFERENCE

1. American Society for Testing Materials (ASTM) D 120-02a, Standard Specification for Rubber Insulating Gloves.

2. ASTM F 496-02a, Standard Specification for In-Service Care of Insulating Gloves and Sleeves.

3. ASTM F 1505-01, Standard Specification for Insulated and Insulating Hand Tools.

These documents are too cumbersome or impractical to publish in Title 8. Therefore, it is proposed to incorporate the documents by reference. Copies of these documents are available for review Monday through Friday from 8:00 a.m. to 4:30 p.m. at the Standards Board Office located at 2520 Venture Oaks Way, Suite 350, Sacramento, California.

REASONABLE ALTERNATIVES THAT WOULD LESSEN ADVERSE ECONOMIC IMPACT ON SMALL BUSINESSES

No reasonable alternatives were identified by the Board and no reasonable alternatives identified by the Board or otherwise brought to its attention would lessen the impact on small businesses.

SPECIFIC TECHNOLOGY OR EQUIPMENT

This proposal will not mandate the use of specific technologies or equipment. In Section 2320.2(a)(3) the proposal would update the existing reference to the ASTM D 120–95, Standard Specification for Rubber Insulating Gloves to reference the current edition of the standard. Additionally, the proposal would update the existing reference to ASTM F 1505–94, Standard Specification for Insulated and Insulating Hand Tools to the current edition.

Existing provisions in the GISO, Section 3380(c) state that the employer shall assure that the employee is instructed and uses personal protective equipment in accordance with the manufacturer's instructions. The manufacturers of rubber insulating gloves instructions state that rubber insulating gloves must be electrically retested based on the requirements of the ASTM F 496 Standard Specification for In-Service Care of Insulating Gloves and Sleeves. The ASTM F 496 standard in part specifies that all rubber insulating gloves used for service must be electrically retested at intervals not to exceed 6 months. The purpose for periodic, electrically retesting rubber insulating gloves is to ensure that the gloves are in suitable condition to insulate (protect) workers from hazardous contact with energized parts or equipment that could result in serious or fatal injuries. The electrical test can identify hazardous defects or damage to rubber insulated gloves that is not readily seen or identified in typical daily physical, visual, air and/or water filled inspections.

A proposed amendment for Section 2320.2(a)(3)(A) would clarify that rubber insulating gloves must be maintained in accordance with the ASTM F 496-02a standard. In light of the existing provisions contained in GISO Section 3380(c), the proposed amendment does not impose new requirements upon the employer. However, the proposal does provide clarity and makes it readily evident within the LVESO that rubber insulting gloves used in low voltage applications (e.g. 00 and 0 class gloves are rated for protection up to 500 volts and 1000 volts AC respectively) must be electrically retested in accordance with the ASTM standard.

Based on discussions with representatives in the electrical industry, many employers and agencies are already in compliance with existing Title 8 provisions that require them to follow the manufacturer's instructions to electrically retest all classes of rubber insulating gloves. For employers or agencies that are not currently electrically testing their lower voltage rated gloves (e.g. class 00 and 0 gloves) the proposal would clarify that obligation within the Low Voltage Electrical Safety Orders. For those employers, the average cost to electrically test the gloves by a third party certified laboratory is approximately $16 for each pair of gloves plus a shipping fee. Additionally, employers that would not have an extra pair of gloves available during the test period would need to purchase an extra pair. The 00 and the 0 class rubber gloves can be purchased for approximately $35 to $55 per pair, respectively, and the outer low voltage leather protector gloves (worn over the rubber insulating glove) cost approximately $15 to $20 per pair. The employer also has the option to purchase new gloves at the end of six months in lieu of electrically retesting the gloves.

Current Federal OSHA standards in 29 CFR 1910.137 "Electrical Protective Equipment", Tables I-5 and I-6, already require electrical testing of rubber insulating gloves. Federal OSHA standards in 29 CFR 1910.137, Table I-5 starts with the 0 class glove and does not address the 00 class glove. Board staff believes that the development of Federal OSHA's existing Tables I-5 and I-6 preceded the development and availability of the 00 class glove from glove manufacturers. However, Board staff has learned that Federal OSHA is proposing amendments outlined in the Federal Register dated June 15, 2005, 29 CFR Parts 1910 and 1926, Proposed Rule for Electric Power Generation, Transmission, and Distribution; Electrical Protective Equipment that will reference the 00 class glove in Table I-5. Consequently that will clarify that the 00 class glove also requires electrical testing as outlined in Table I-6.

Finally, a proposed exception to Section 2320.2(a)(3) would provide clarity and relief for the employer by establishing that suitable protective equipment, such as approved insulating gloves or insulated tools are not required when working on exposed parts of electrical equipment or systems energized at less than 50 volts.

COST ESTIMATES OF PROPOSED ACTION

Costs or Savings to State Agencies

No costs or savings to state agencies will result as a consequence of the proposed action. The proposal does not impose new requirements upon State agencies. See the rationale under the heading, "Specific Technology or Equipment."

Impact on Housing Costs

The Board has made an initial determination that this proposal will not significantly affect housing costs.

Impact on Businesses

The Board has made a determination that this proposal will not result in a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states. Also, see the rationale under the heading, "Specific Technology or Equipment."

Cost Impact on Private Persons or Businesses

The Board is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. Also, see the rationale under the heading, "Specific Technology or Equipment."

Costs or Savings in Federal Funding to the State

The proposal will not result in costs or savings in federal funding to the state.

Costs or Savings to Local Agencies or School Districts Required to be Reimbursed

No costs to local agencies or school districts are required to be reimbursed. See explanation under "Determination of Mandate."

Other Nondiscretionary Costs or Savings Imposed on Local Agencies

This proposal does not impose nondiscretionary costs or savings on local agencies.

DETERMINATION OF MANDATE

The Occupational Safety and Health Standards Board has determined that the proposed standards do not impose a local mandate. Therefore, reimbursement by the state is not required pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code because the proposed amendments will not require local agencies or school districts to incur additional costs in complying with the proposal. Furthermore, these standards do not constitute a "new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution."

The California Supreme Court has established that a "program" within the meaning of Section 6 of Article XIII B of the California Constitution is one which carries out the governmental function of providing services to the public, or which, to implement a state policy, imposes

unique requirements on local governments and does not apply generally to all residents and entities in the state. (County of Los Angeles v. State of California (1987) 43 Cal.3d 46.)

These proposed standards do not require local agencies to carry out the governmental function of providing services to the public. Rather, these standards require local agencies to take certain steps to ensure the safety and health of their own employees only. Moreover, these proposed standards do not in any way require local agencies to administer the California Occupational Safety and Health program. (See City of Anaheim v. State of California (1987) 189 Cal.App.3d 1478.)

These proposed standards do not impose unique requirements on local governments. All employers - state, local and private will be required to comply with the prescribed standards.

EFFECT ON SMALL BUSINESSES

The Board has determined that the proposed amendments would clarify for small businesses (e.g. primarily electrical contractors) that rubber insulting gloves must be tested in accordance with the provisions of the ASTM F 496-02a consensus standard. However, no economic impact is anticipated because the proposal clarifies existing requirements as explained under the heading "Specific Technology or Equipment." Further, based on discussions with electrical contractors, the vast majority of electrical work is performed on electrical parts of equipment or systems that are not energized and thus would not be subject to the provisions contained in Section 2320.2 for work while equipment or systems are energized.

ASSESSMENT

The adoption of the proposed amendments to these standards will neither create nor eliminate jobs in the State of California nor result in the elimination of existing businesses or create or expand businesses in the State of California.

ALTERNATIVES THAT WOULD AFFECT PRIVATE PERSONS

No reasonable alternatives have been identified by the Board or have otherwise been identified and brought to its attention that would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action.